What is claimed:

1. A method of enhancing images from an electro-optic imaging system, comprising:

collecting a video sequence of images from an object source;

estimating motion associated with said video sequence of images;

assembling said video sequence of images to form a single composite image based on estimate positions of individual pizels; and

restoring a composite image.

2. The method of claim 1 wherein the step of estimating motion associated with said video sequence of images further includes selecting a single image frame from said video sequence as a template from which the motion of all other frames of video is estimated.

3. The method of claim 1, where in the step of estimating motion associated with said video sequence assumes a displacement, said displacement is estimated by the steps of

estimating nearest pixel displacement by image correlation;

estimating subpixel displacement by a least squares solution of brightness constancy constraint equation applied to aligned images;

tagging every pixel in said template with a whole integer coordinate; and

tagging every pixel in other frames with an adjusted coordinate based on the displacement estimate of said other frames.

4. The method of claim 1 where in the step of estimating motion associated with said video sequence includes associating with each pixel quantities relevant to subsequent image restoration, comprising:

pixel intensity;

X-coordinate location;

Y-coordinate location;

X-coordinate estimate uncertainty; and

Y-coordinate estimate uncertainty.

5. The method of claim 1 wherein the step of assembling video frames into a single composite image based on estimated positions of individual pixels further comprises:

defining and constructing a lattice array with a higher sampling density than a template image;

computing for each lattice site an associated coordinate interval corresponding to a rectangular span of each lattice site relative to said template image coordinate grid;

finding and selecting all pixels whose estimated coordinates and uncertainty intervals are statistically likely to belong within the rectangular span of each lattice site, and

processing intensity values associated with selected pixels by an aggregate estimator to produce a single intensity estimate for each lattice site thus forming a composite image.

6. The method of claim 5, wherein the step of assembling video frames into a single composite image based on estimated positions of individual pixels further comprises:

determining an uncertainty of said lattice intensity estimates to produce an adjunct lattice of statistical variances of intensities of the composite image.

7. The method of claim 1 wherein the step of restoring a composite image comprises an image deconvolution, restoration with enhancement algorithm.

8. A system for enhancing images captured by an electro-optic imaging sensor and for reducing focal length of said sensor while preserving system acuity, comprising

a computer executing software for collecting a video sequence of images from a sensor;

said computer executing software for estimating motion associated with said video sequence of images;

said computer executing software for assembling said video sequence of images to form a single composite image based on intensity information and estimated positions of pixels in a video sequence; and

said computer executing software for restoring a composite image.